Application Number	Application/Control No.	Applicant(s)/Patent Under Reexamination
Application Number	10/759,720	KIM ET AL.
	Examiner	**Art Unit**
	Olugbenga O. Idowu	2623

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,720	01/16/2004	Yong-Deok Kim	5000-1-515	8222

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EXAMINER
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ART UNIT	PAPER NUMBER
2623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/759,720	KIM ET AL.
	Examiner	Art Unit	
	Olugbenga O. Idowu	2623	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *27 August 2007*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☒ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

8/27/2007 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1- 20 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

4.   Claims 1, 2,4 - 8,10 – 13 and 16 - 20 are being rejected under 35 U.S.C. 103(a)

as being unpatentable over Ishida (US Patent No. 6,434,171) in view of Sullivan, patent

number: US 6 662 365 BI in view of Kato. (Patent No. 6, 233, 255) and in further view of

Carlucci, publication number: US 20040244058 A1.

Consider **claim 1,** Ishida clearly teaches "An MPTS-SPTS separation device in a

digital broadcasting system (Fig. 1), comprising:

a receiving interface (11) for receiving an MPEG-2 MPTS (Multiple-Program Transport

Stream) combining a plurality of programs , provided from a digital broadcast program

provider (the multiplexers 11i – 11m, which are identically constructed, multiplex

audio/video MPET-2 TS of a program, which is selected from a number of MPEG2

transport stream, col. 4, lines 55- 58); an MPTS-SPTS separator (Fig. 1, Fig. 2 further

explanations Fig. 1) for

a) detecting a PAT (Program Association Table)(Fig. 2, 21d) packet from MPEG-2

MPTS data provided from the receiving interface, (By referring to the PAT and PMT in

the service information, the PAT/PMT analyzers 21d obtain the packet identifiers, col.

5, lines 27 - 30)

b) analyzing PIDs (Program IDs)(Fig. 2, 21d) of a PMT (Program Map Table) that

correspond respectively to a plurality of programs existing in an MPEG-2 MPTS

packet. (PAT/PMT analyzers 21d obtain the packet identifiers PID of the audio/video

streams of the designated programs, col. 5, lines 29-31)

c) receiving information of a single program selected by a user via a receiver

connected to PAT Extractor/Parser (Fig. 1, 3. The CPU (in the DSTB) controls the

demultiplexer based on program selection... selected by user, col. 8, lines 32-36,

PAT/PMT analyzers 21d obtain the packet identifiers PID of the audio/video streams of

the designated programs, col. 5, lines 29-31),

d) removing packets associated with all programs other than the selected program(Fig.

2, 21a. PID filter separate the video streams and audio streams of designated

programs from the entered MPEG-2 TS, col. 5, lines 45-48)

Ishida does not explicitly teach:

c) receiving information of a single program selected by a user via a universal

Asynchronous Receiver/Transmitter coupled to a PAT Extractor/Parser.

e) changing a PAT by deleting PIDs associated with said other programs from the

PAT, while retaining PIDs of a PMT that are associated with the selected

program, and

f) inserting the changed PAT into a stream corresponding to the

selected single program; and a transmitting interface for transmitting an SPTS

outputted from the MPTS-SPTS separator and wherein said selected single program is

transmitted as digital video broadcasting- Asynchronous interface (DVB- ASI) data.

In an analogous art, Sullivan teaches receiving information via a universal

Asynchronous Receiver/Transmitter (input system comprising a UART port, col. 4, lines

24 - 40).

Therefore, it would have been obvious to one of ordinary skill in the art to modify

Ishida's separating device by including a UART as described in Sullivan's reception

system for the advantages of reducing the expense of long communication links

sending several bits in parallel.

Ishida and Sullivan fail to teach the process of changing a PAT and inserting the

changed PAT into a stream.

In a relevant field of endeavor, Kato teaches a system that selects a program from a

stream of multiple programs. Kato also teaches:

e) changing a PAT (the program control information(also referred to as the PAT, col. 2,

line 52) editing section as a program control information editing means, col. 20, lines

48-49), by deleting PIDs associated with said other programs from the PAT, while

retaining PIDs of a PMT that are associated with the selected Program (program

control information aborting sections, col. 20, lines 15-29 ...As described above, by

aborting only all program control information from the bit streams received by the

remultiplexing apparatus and only multiplexing again the program information packet

from the program generating section and the packet containing the newly generated all

program control information, col. 21, lines 27- 32), and

f) inserting the changed PAT into a stream corresponding to the

selected single program (and transmits the remultiplexed packet as new program

multiplexed information, col. 9, lines 21-22); and a transmitting interface (and transmits,

col. 9, line 21) for transmitting an SPTS outputted from the MPTS-SPTS separator.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ishida, Sullivan and Kato. The combination describes a system for conserving bandwidth by reducing multiple program transmission to a single or reduced number of programs to be transmitted. Kato's separation technique can be incorporated into the combination of Ishida and Sullivan by using the procedure as shown in Kato to combine the new PAT, PMT and PID of the selected program, in Ishida, and combine them with the audio/video stream of the requested program. Kato is just a further explanation of the process that Ishida and Sullivan use to select and transmit its selected stream. The higher level of explanation produced in by Kato give a greater understanding of the process of selecting a single stream from multiple streams.

The combination of Ishida, Sullivan and Kato does not teach the received stream being transmitted in DVB- ASI format.

In an analogous art, Carlucci teaches the received stream being transmitted in DVB-ASI format (streams being sent and received in DVB-ASI standards, [0165]).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the combination of Ishida, Sullivan and Kato by allowing the system to receive streams in the DVB-ASI format as described in Carlucci's programming content processing system for the advantages of simultaneous delivery of programming to multiple client devices and multicasting.

Consider **claim 2,** the combination of Ishida, Sullivan, Kato and Carlucci teach:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separator includes: a PAT extractor/parser (Ishida; Fig. 2, 21d) for

detecting a PAT packet (Ishida; By referring to the PAT and PMT in the service

information, the PMT/PAT analyzers obtain the packet identifiers, col. 5, lines 27 - 30)

in the MPEG-2 MPTS data provided from the receiving interface; a PMT

extractor/parser (Ishida; Fig. 2, 21d) for analyzing PIDs (Program ID) of a PMT that

correspond respectively to a plurality of programs existing in an MPEG-2 packet

(Ishida; the PMT/PAT analyzers (21d) obtain the packet identifiers... of the designated

programs, col. 5, lines 27 - 30); a PMT filter/selector (Ishida: demultiplexer 45, col. 8,

line 32) for receiving information of a single program selected by a user (Ishida; CPU

67 (in the DSTB) controls the demultiplexer 45 based upon program selection data that

has entered from a remote control, col. 8, lines 32-35); a packet terminator for

removing packets associated with all programs other than the selected program

(Ishida; The PID filters 21a separate the video streams and audio streams of

designated programs, col. 5, line 45-46); a PAT inserter(Kato: program control

information(also referred to as the PAT, col. 2, line 52) aborting sections, col. 20, line

15) for changing the PAT, by deleting PIDs associated with said other programs from

the PAT, while retaining said PIDs of a PMT that are associated with the selected

program (program control information aborting sections, works by aborting only all

program control information from the bit streams received by the remultiplexing

apparatus and only multiplexing again the program information packet from the

program generating section and the packet containing the newly generated all program

control information, col. 21, lines 27- 32), and inserting the changed PAT into a stream

corresponding to the selected single program (Kato; and transmits the remultiplexed

packet as new program multiplexed information, col. 9, lines 21-22).

Consider **claim 4** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5,

line 30), audio or data packets.

Consider **claim 5** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, said device being

part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that

receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

Consider **claim 6** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, said device being

part of an Optical Line Termination (OLT)(CATV center, col. 4, line 26) that receives at

least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial and

satellite broadcasts.

Consider **claim 7** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the PAT

extractor/parser refers to a PID (Packet Identification)(PAT/PMT analyzers obtain the

packet identifiers, col. 5, lines 29-30) in an overhead section of the MPTS packet, so

as to identify whether the MPTS packet is a PAT packet (The PAT, which is

transmitted with a PID of 0, specifies the packet identifier of a TS packet, col. 1, lines

48-50).

Consider **claim 8** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, further comprising

a user interface for receiving and displaying an analysis result (based on service

information (contains PMT and PAT), displays receivable information on a display

unit, col. 8, line 65-66) of the MPEG-2 MPTS packet from the PAT extractor/parser

(The SI (service information) processor 67a combines the partial service information

sent from the DSTB control unit 14 and the service information, col. 8, line 59-60),

and, when receiving information of said single program, providing the information to

the PMT filter/selector (CPU 67 controls the demultiplexer 45 based upon program

selection data, col. 8, lines 32-35).

Consider **claim 10** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5, line 30(Ishida)), audio or data packets

Consider **claim 11** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, said device being part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial and satellite broadcasts.

Consider **claim 12** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, said device being part of an Optical Line Termination (OLT)(CATV center, col. 4, line 26) that receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial and satellite broadcasts.

Consider **claim 13** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 8, wherein the user interface includes any one of an LCD (Liquid Crystal Display) and a CRT monitor (Display Unit, col. 8, line 66, since one of the main motives of the invention is to save cost, it is not out of the ordinary for the selected display to be a CRT or LCD because they are two of the cheapest available display technologies) of a general computer.

Consider **claim 16** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separation device is installed in a cable TV broadcast station of a

wired cable system (CATV center, Fig. 1)

Consider **claim 17** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

MPTS-SPTS separation device is installed in an OLT (Optical Line Termination)(CATV

center 1, col. 4, line 25-36) of an AON (Active Optical Network)(Bidirectional optical

transmission path 2, col. 4, lines 34-35).

Consider **claim 18** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, wherein the

packets removed are video (PID filters 21a separate the audio/video streams, col. 5,

line 30), audio or data packets.

Consider **claim 19** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, said device being

part of a CATV (cable television) broadcast station (CATV center, col. 4, line 26) that

receives at least one of VOD (video on demand)(audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

Consider **claim 20** Ishida teaches:

The MPTS-SPTS separation device as set forth in claim 1, said device being

part of an Optical Line Termination (OLT)(CATV center 1, col. 4, line 25-36) that

receives at least one of VOD (video on demand) (audio/video col. 4, lines 30-31), aerial

and satellite broadcasts.

5.   Claims 3,9, 14 and 15 are being rejected under 35 U.S.C. 103(a) as being

unpatentable over Ishida, Sullivan, Kato and Carlucci as applied to claims 1, 2 and 8

above, and further in view of Pinder (U.S. Patent no: 7,065,213)

Consider **claim 3**:

The combination of Kato, Sullivan, Ishida and Carlucci teach a multiple stream

separation device using a multiplexer for the stream separation but they do not teach

the device using an FPGA for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches:

The MPTS-SPTS separation device as set forth in claim 2, wherein the

MPTS-SPTS separator is implemented with an FPGA (Field Programmable Gate

Array)(FPGA, col. 13, line 19).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato, Sullivan, Ishida and Carlucci because

Pinder's invention is about ways to extract a single stream from multiple streams.

Pinder's separation technique can be incorporated into the combination of Kato,

Sullivan, Ishida and Carlucci by simply changing the multiplexers for the FPGA. FPGAs

are programmable, which makes them flexible like software and also have the reliability

of hardware.

Consider **claim 9**

The combination of Kato, Sullivan, Ishida and Carlucci teach a multiple stream

separation device using a multiplexer for the stream separation but they do not teach

the device using an FPGA for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches: The MPTS-

SPTS separation device as set forth in claim 8, wherein the MPTS-SPTS separator is

implemented with an FPGA (Field Programmable Gate Array)(FPGA, col. 13, line 19).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato, Sullivan, Ishida and Carlucci because

Pinder's invention is about ways to extract a single stream from multiple streams.

Pinder's separation technique can be incorporated into the combination of Kato, Ishida,

Sullivan and Carlucci by simply changing the multiplexers for the FPGA. FPGAs are

programmable, which makes them flexible like software and also have the reliability of

hardware.

Consider **claim 14**

The combination of Kato, Sullivan, Ishida and Carlucci teach a multiple stream

separation device using a multiplexer for the stream separation but they do not teach

the device using an integrated circuit for the separation.

In the same field of endeavor, Pinder teaches a system that has an input of a plurality of

streams and outputs at least one transport stream. Pinder also teaches: The MPTS-

SPTS separation device as set forth in claim 1, wherein the MPTS-SPTS separator is

implemented with an integrated circuit (FPGA, col. 13, line 19, FPGAs are integrated

circuits).

It would have been obvious to one of ordinary skill in the art at the time of the invention

to combine Pinder with the combination of Kato, Sullivan and Ishida because Pinder's

invention is about ways to extract a single stream from multiple streams. Pinder's

separation technique can be incorporated into the combination of Kato, Sullivan, Ishida

and Carlucci by simply changing the multiplexers for an integrated circuit such as an

FPGA. FPGAs are programmable, which makes them flexible like software and also

have the reliability of hardware.

Consider **claim 15**, Pinder teaches: The MPTS-SPTS separation device as set forth in

claim 14, wherein the MPTS-SPTS separator is implemented with an FPGA (Field

Programmable Gate Array)(Pinder: FPGA, col. 13, line 19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olugbenga O. Idowu whose telephone number is 571 270 1450. The examiner can normally be reached on Monday to Friday, 7am -5pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edourd can be reached on 571 272 7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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